

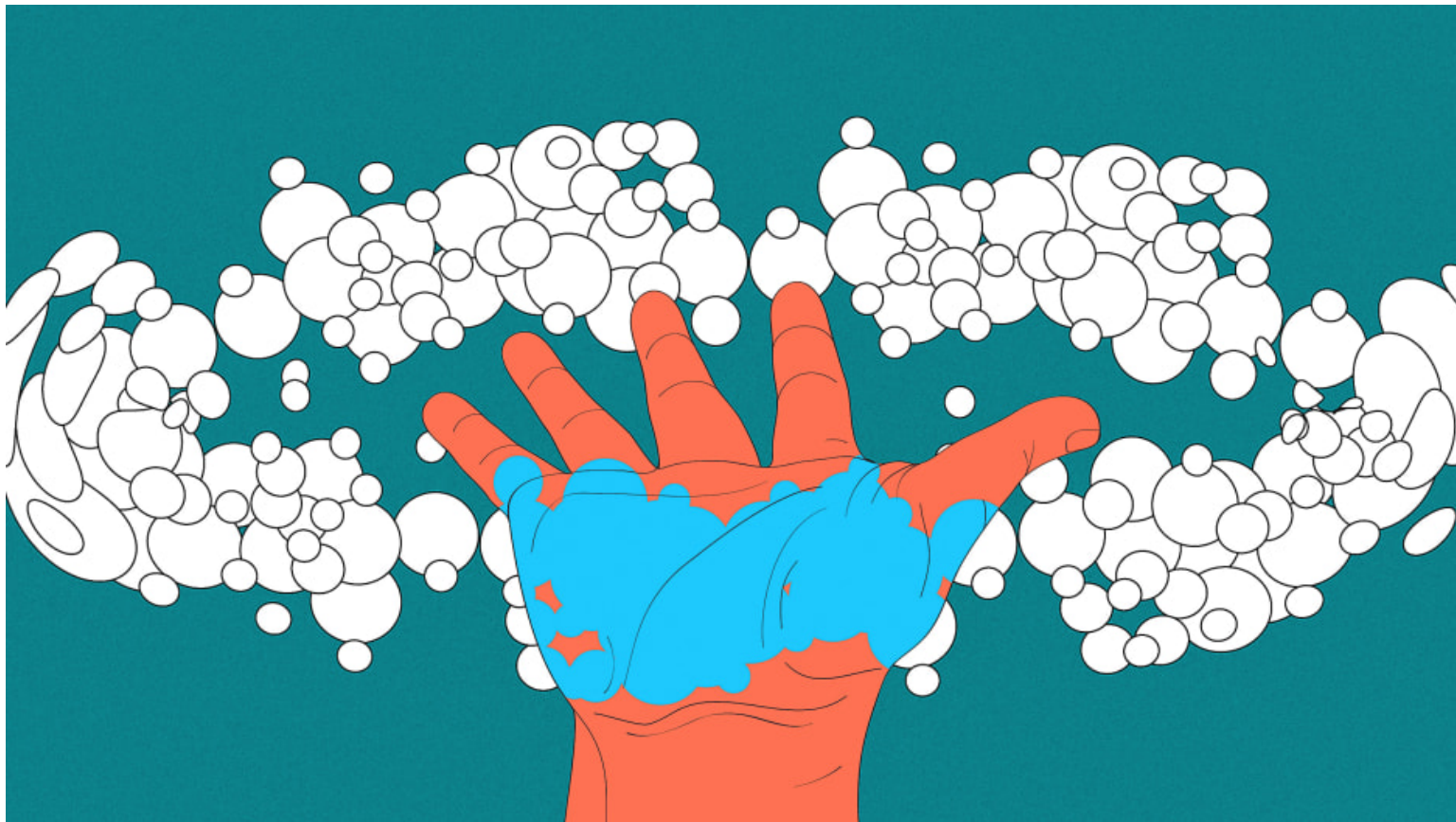
FOLLOW



12-03-20 | 6:00 AM | EVIDENCE

# There's a better hand sanitizer for COVID-19. Why aren't we using it?

The CDC's recommendation about hand sanitizer during the pandemic is being challenged by science.



[Source Image: Gala2205/iStock]





---

## THIS

shion statement  
is that doubles

---

o went wrong

---

s COVID-19  
office. But that's  
tory

---

---

**BY MARK WILSON**

3 MINUTE READ

Alcohol, 60% concentration. That's what your hand sanitizer needs to reliably kill the SARS-CoV-2 virus, [according to the CDC](#).

But new research out of BYU, [published in the \*Journal of Hospital Infection\*](#), challenges this notion. It found that three commercial disinfectants—used in many hand sanitizers and surface wipes as alternatives to alcohol—kill the virus effectively.

Most crucially, it found that a chemical known as benzalkonium chloride (BKC) reliably kills SARS-CoV-2.

If the FDA and CDC embrace these findings, hand sanitizers could be cheaper, more enjoyable to use, and finally be plentiful on store shelves.

## HOW IS THIS POSSIBLE?

While you may have never heard of it, BKC is the only FDA-approved hand sanitizer on the market that doesn't include alcohol. It's been popular in hand sanitizers for years, and it's also the key ingredient in most antibacterial soaps. BKC is also significantly less expensive to produce in effective amounts than alcohol.

The implications from the research are that we can source a wider supply chain for PPE less expensively than we're doing now, and that we don't need to be burning or irritating our hands with alcohol when more soothing solutions exist. BKC wasn't just able to kill the virus; it killed the virus when researchers simulated real-world conditions, too, such as dirt on your hands or dilution of the hand sanitizer in residual water from rinsing. And it did it in just 15 seconds.

"In my opinion, having run a lot of disinfectant studies, [15 seconds] is about as good as you can expect," says Benjamin Ogilvie, the BYU graduate student in microbiology and molecular biology who led the research. He says it's logistically infeasible to observe how disinfectants impact viruses any faster than that.

## THESE RESULTS WERE EXPECTED BUT NECESSARY

As Ogilvie admits, the results of this study are in line with what he expected. BKC was proven effective on coronaviruses before this new research; it just hadn't been shown to work specifically on SARS-CoV-2. David Edwards, a pathogen expert at Harvard who we enlisted to review the paper, found the results similarly predictable. "BKC is a well-known antimicrobial . . . the results of the study here are not surprising," says Edwards.

So if experts aren't surprised that BKC works to kill SARS-CoV-2, why isn't the CDC already recommending its use? Ogilvie traces the controversy back to March, with [a heavily cited paper published by the German Institut für Hygiene](#). This paper wasn't new lab research but what's known as a "review article," which examines previous literature on a topic.

"This review article linked it to a study in the 1980s that was a little questionable," says Ogilvie. It concluded that BKC was "less effective" at sterilizing surfaces than alcohol. Since March, the Institut für Hygiene paper has been questioned [by both chemists](#) and [a disinfectant manufacturer](#). (The Institut für Hygiene team did not respond to our request for comment by the time of publishing.) But the effects are still being felt in our policy. Not only does the CDC recommend the exclusive use of alcohol-based hand sanitizers; the FDA is limiting the U.S.'s potential ability to ramp up production of BKC sanitizers during the pandemic.

The FDA has offered expedited approval ([PDF](#)) for the production of alcohol-based sanitizers, which is what allows your local distiller and other unconventional manufacturing plants to produce disinfectants. If the FDA offered this same approval to BKC sanitizers, we could have a much wider pool of manufacturers making it as well.

## THE GREATER PRACTICALITY OF BKC SANITIZER

If BKC were recommended by the CDC, the availability of hand sanitizer would go up, while the costs could go down, since you need far less BKC than alcohol for sanitizer to be effective. Whereas you need a 60% concentration of alcohol in hand sanitizer for it to be effective, you only need a 0.2% concentration of BKC.

“One gallon of BKC could make 500 gallons of hand sanitizer, while the same quantity of alcohol could make 1.4 liters of alcohol hand sanitizer,” says Ogilvie. From his own back-of-napkin estimates, BKC sanitizers cost roughly one-third as much to produce compared to alcohol-based sanitizers.

So BKC is an all-around more efficient sanitizer to produce than alcohol. However, the biggest appeal of the chemical might be its more inviting human factors. BKC doesn't stink, and it feels better to use.

“One nice advantage of BKC . . . is that it does not sting hands or irritate skin like alcohol does,” says Ogilvie. “This can perhaps lead to better compliance among healthcare workers.” Or, perhaps, all of us.

---

#### ABOUT THE AUTHOR

Mark Wilson is a senior writer at Fast Company who has written about design, technology, and culture for almost 15 years. His work has appeared at Gizmodo, Kotaku, PopMech, PopSci, Esquire, American Photo and Lucky Peach [More](#)

---

#### **You Might Also Like:**

[I Review Hundreds Of Cover Letters—Here's What I Instantly Reject](#)

[Six Verbs That Make You Sound Weak \(No Matter Your Job Title\)](#)

---